

Multiphoton Microscopy in the Biomedical Sciences IV (BO24)

Part of SPIE's International Symposium on Biomedical Optics 2004
24-29 January 2004 • San Jose Convention Center • San Jose, USA

Conference Chairs: **Ammasi Periasamy**, Univ. of Virginia; **Peter T. C. So**, Massachusetts Institute of Technology

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Modern biology research on molecular, cellular, and organism levels requires the precise measurement of cellular or subcellular activity in two or three dimensions. Many available fluorescence microscope techniques are yielding limited in vivo information about the organizations and dynamics of complex cellular and tissue structures. The multiphoton (two-or- more photon) excitation fluorescence imaging microscopy process will provide a unique, state-of-the-art, minimally invasive imaging system for thick tissue (deeper) and cellular imaging, and can effectively utilize UV absorption fluorophores. This multidisciplinary conference will be a forum for scientists from various fields of research, including both commercial and academic sectors, to discuss the system development and advantages of multiphoton microscopy in the various fields of biomedical sciences.

Topics include:

- multiphoton microscopy (MP) theory and system development
- MP in wide-field and laser scanning confocal microscopy
- infrared lasers for MP system (femtosecond vs. picosecond vs. CW)
- single-molecule imaging
- MP in tissue engineering
- fluorescence resonance energy transfer imaging (MP-FRET)
- fluorescence lifetime imaging (frequency and time domain) (MP-FLIM)

- fluorescence correlation spectroscopy (MP-FCS)
- second harmonic generation microscopy (SHG)
- coherent and incoherent Raman spectroscopy
- fluorescence recovery after photobleaching (MP-FRAP)
- deep tissue and cellular imaging
- calcium, pH imaging
- MP in developmental and neurobiology
- MP in photodynamic therapy (MP-PDT) and clinical imaging
- MP inducing localized chemical reactions such as probe uncaging
- photo-thermal, -chemical and -mechanical effects of IR radiation
- laser safety.

Students' Poster Session Competition

Students and postdocs are welcome to participate in the poster session competition of the conference on *Multiphoton Microscopy in the Biomedical Sciences*. There is a cash award for the winner(s). The participants should follow the rules and regulations of the SPIE organization for submission of their abstract and manuscript. They should also mention that their submission is for the "Students Poster Session Competition (SPSC-MP)".

Abstract Due Date: 30 June 2003
Manuscript Due Date: 29 December 2003

Submission of Abstracts for Biomedical Optics 2004 Symposium

Abstract Due Date: **30 June 2003**

Manuscript Due Date: **29 December 2003**

IMPORTANT!

Submissions imply the intent of at least one author to register, attend the symposium, present the paper (either orally or in poster format), and submit a full-length manuscript for publication in the conference Proceedings.

All authors (including invited or solicited speakers), program committee members, and session chairs are responsible for registering and paying the reduced author, session chair, program committee registration fee. (Current SPIE Members receive a discount on the registration fee.)

Instructions for Submitting Abstracts via Web

You are **STRONGLY ENCOURAGED** to submit abstracts using the "submit an abstract" link at:

www.spie.org/info/pw

Submitting directly on the Web ensures that your abstract will be immediately accessible by the conference chair for review through MySPIE, SPIE's author/chair web site.

Please note! When submitting your abstract you must provide contact information for all authors, summarize your paper, and identify the **contact author** who will receive correspondence about the submission and who must submit the manuscript and all revisions. Please have this information available before you begin the submission process.

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If you do not have web access, you may E-MAIL each abstract separately to: abstracts@spie.org in [ASCII text \(not encoded\)](#) format. There will be a time delay for abstracts submitted via e-mail as they will not be immediately processed for chair review.

IMPORTANT! To ensure proper processing of your abstract, the SUBJECT line must include only:

SUBJECT: BO24, PERIASAMY, SO

Your abstract submission must include all of the following:

- 1. PAPER TITLE**
- 2. AUTHORS** (principal author first) For each author: First (given) name (initials not acceptable), Last (family) name, Affiliation, Mailing address, Telephone, Fax, and Email address.
- 3. PRESENTATION PREFERENCE** "Oral Presentation" or "Poster Presentation."
- 4. PRINCIPAL AUTHOR'S BIOGRAPHY** Approximately 50 words.
- 5. ABSTRACT TEXT** Approximately 250 words.
- 6. KEYWORDS** Maximum of five keywords.

Conditions of Acceptance

- Authors are expected to secure funding for registration fees, travel, and accommodations, independent of SPIE, through their sponsoring organizations before submitting abstracts.
- Only original material should be submitted.
- Commercial papers, papers with no new research/development content, and papers where supporting data or a technical description cannot be given for proprietary reasons will not be accepted for presentation in this symposium.
- Abstracts should contain enough detail to clearly convey the approach and the results of the research.
- Government and company clearance to present and publish should be final at the time of submittal. Authors are required to warrant to SPIE in advance of publication of the Proceedings that all necessary permissions and clearances have been obtained, and that submitting authors are authorized to transfer copyright of the paper to SPIE.

Review, Notification, Program Placement

- To ensure a high-quality conference, all abstracts and Proceedings manuscripts will be reviewed by the Conference Chair/Editor for technical merit and suitability of content. Conference Chair/Editors may require manuscript revision before approving publication, and reserve the right to reject for presentation or publication any paper that does not meet content or presentation expectations. SPIE's decision on whether to accept a presentation or publish a manuscript is final.
- Applicants will be notified of abstract acceptance by mail no later than 15 September 2003. Early notification of acceptance will be placed on SPIE Web the week of 13 October 2003 at www.spie.org/info/pw
- Final placement in an oral or poster session is subject to the Chairs' discretion. Instructions for oral and poster presentations will be included in your author kit. All oral and poster presentations are included in the *Proceedings of SPIE*, and require presentation at the meeting and submission of a manuscript.

Proceedings of SPIE

- These conferences will result in full-manuscript Chairs/Editor-reviewed volumes published in the *Proceedings of SPIE*.
- Correctly formatted, ready-to-print manuscripts submitted in English are required for all accepted oral and poster presentations. Electronic submissions are recommended, and result in higher quality reproduction. Submission must be provided in PostScript created with a printer driver compatible with SPIE's online Electronic Manuscript Submission system. Instructions are included in the author kit and from the "Author Info" link at the conference website.
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